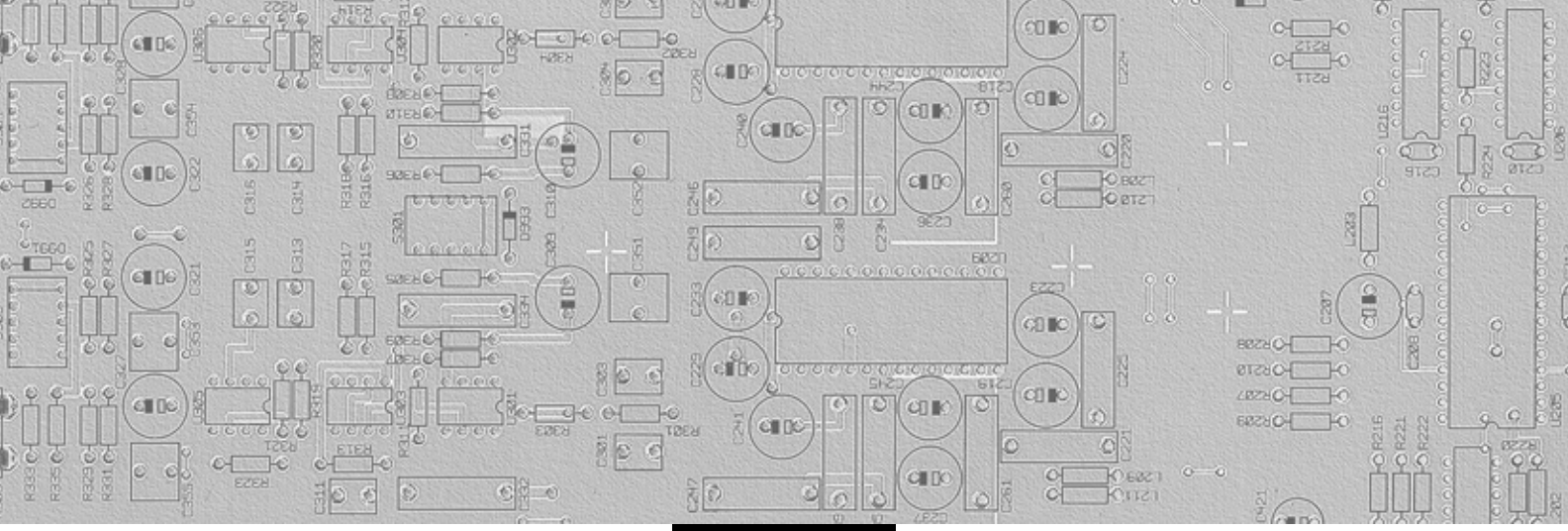
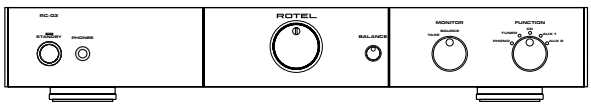


ROTEL

Owner's Manual

RC-03

Stereo Control Amplifier



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

APPLICABLE FOR USA, CANADA OR WHERE APPROVED FOR THE USAGE

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT. INSERT FULLY.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU AU FOND.

This symbol is to alert the user to the presence of uninsulated dangerous voltages inside the product's enclosure that may constitute a risk of electric shock.

This symbol is to alert the user to important operating and maintenance (service) instructions in this manual and literature accompanying the product.

Important Safety Instructions

WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component. Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.

You must allow 10 cm or 4 inches of unobstructed clearance around the unit. Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation slots. If the component is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel of the unit.

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable in any way. Do not attempt to defeat grounding and/or polarization provisions. Do not use extension cords.

Do not route the power cord where it will be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where it exits the back of the unit.

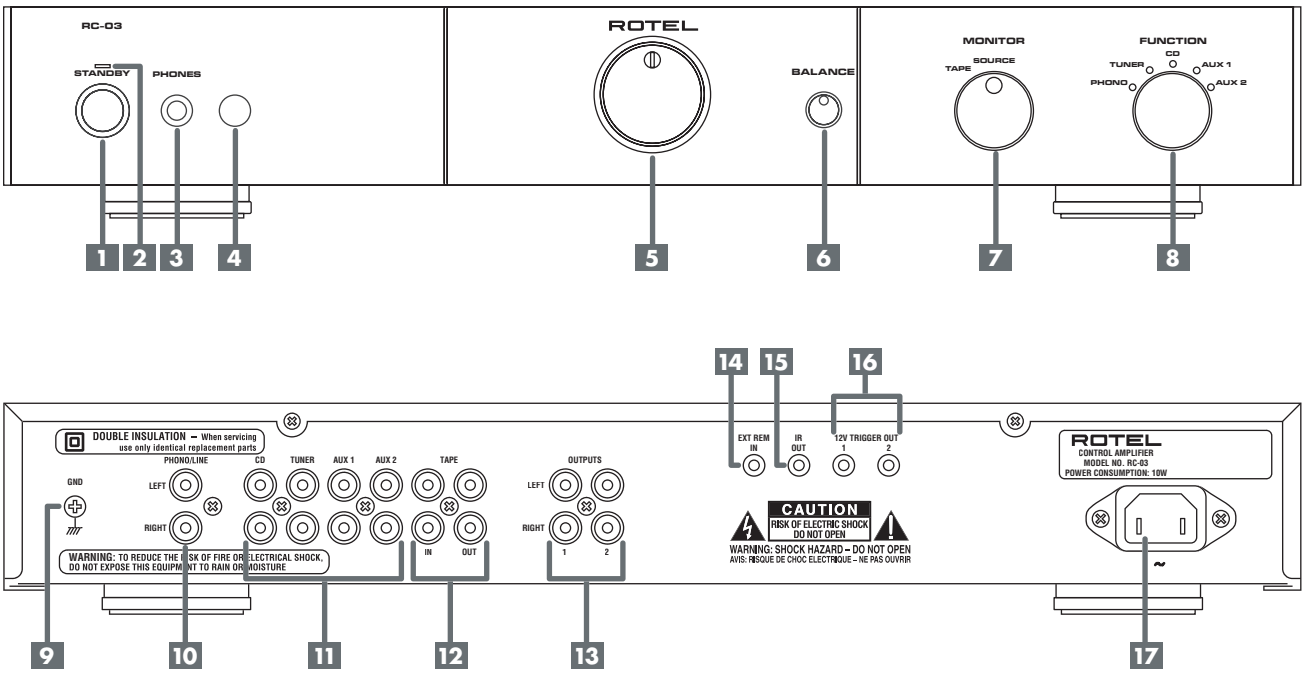
The power cord should be unplugged from the wall outlet if the unit is to be left unused for a long period of time.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

Place the unit on a fixed, level surface strong enough to support its weight. Do not place it on a moveable cart that could tip over.

Figure 1: Controls and Connections
Commandes et branchements
Bedienelemente und Anschlüsse
Controlli e Collegamenti
Controles y Conexiones
De bedieningsorganen en de aansluitingen
Funktioner och anslutningar



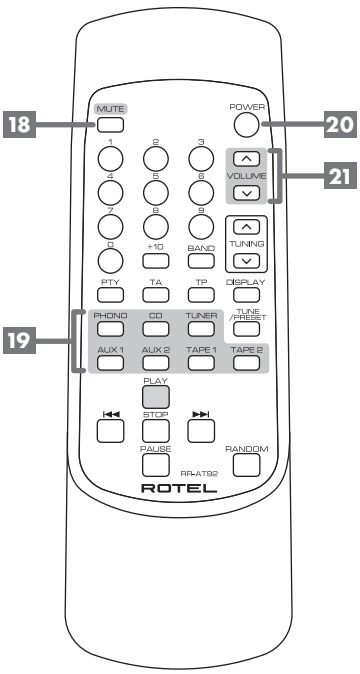


Figure 2: Phono/Line Input Jumpers
Cavaliers de l'entrée Phono/Ligne
Jumper für PHONO/LINE-Eingang
Jumper Ingresso Linea/Phono
Puentes de la Entrada Fono/Línea
Doorverbindingsstukjes voor p.u./lijnniveau aanpassing
Byglar för skivspelaringång / linjeingång

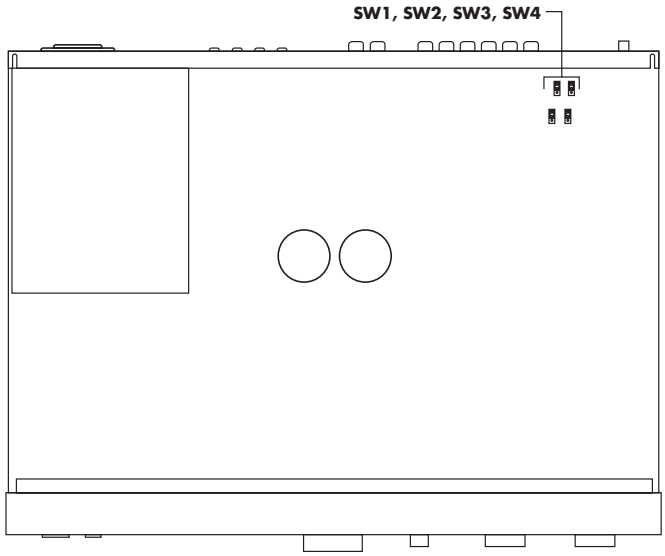
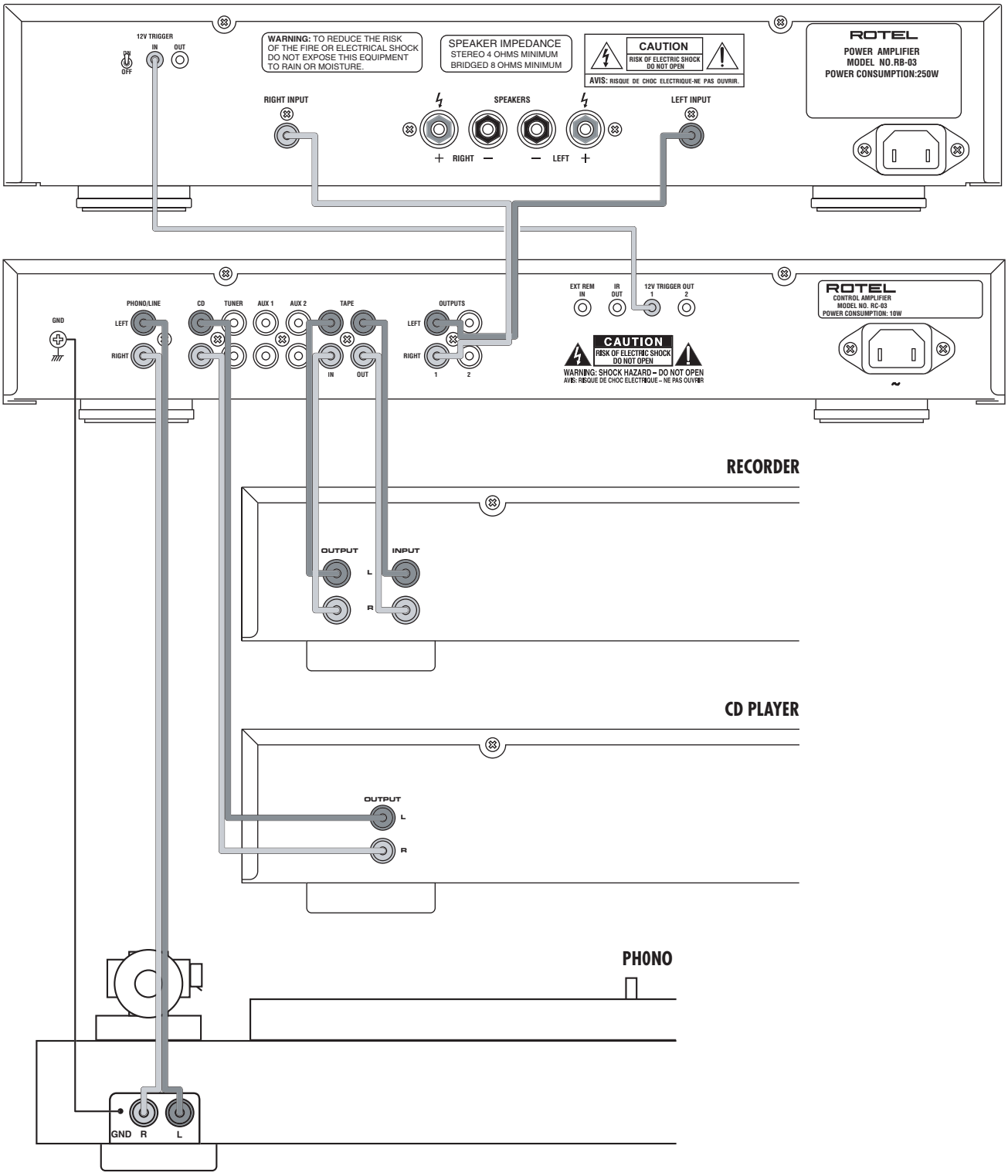


Figure 3: Input and Output Connections
Branchements des entrées et des sorties
Ein- und Ausgangsanschlüsse
Collegamenti Ingresso ed Uscita
Conexiones de Entrada y Salida
De in- en uitgangsaansluitingen
Anslutningar för in- och utsignaler



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About Rotel

A family whose passionate interest in music led them to manufacture high fidelity components of uncompromising quality founded Rotel over 40 years ago. Through the years that passion has remained undiminished and the family goal of providing exceptional value for audiophiles and music lovers regardless of their budget, is shared by all Rotel employees.

The engineers work as a close team, listening to, and fine tuning each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semi conductors from Japan or the United States, while toroidal power transformers are manufactured in Rotel's own factory.

Rotel's reputation for excellence has been earned through hundreds of good reviews and awards from the most respected reviewers in the industry, who listen to music every day. Their comments keep the company true to its goal - the pursuit of equipment that is musical, reliable and affordable.

All of us at Rotel, thank you for buying this product and hope it will bring you many hours of enjoyment.

Getting Started

Thank you for purchasing the Rotel RC-03 Stereo Control Amplifier. When used in a high-quality music audio system, it will provide years of musical enjoyment.

The RC-03 is a full featured, high performance component. All aspects of the design have been optimized to retain the full dynamic range and subtle nuances of your music. The RC-03 has a highly regulated power supply incorporating a Rotel custom-designed toroidal power transformer. This low impedance power supply has ample power reserves, which enables the RC-03 to easily reproduce the most demanding audio signals. This type of design is more expensive to manufacture, but it is better for the music.

The printed circuit boards (PCB) are designed with Symmetrical Circuit Traces. This insures that the precise timing of the music is maintained and faithfully recreated. The RC-03 circuitry uses metal film resistors and polystyrene or polypropylene capacitors in important signal paths. All aspects of this design have been examined to ensure the most faithful music reproduction.

The main functions of the RC-03 are easy to install and use. If you have experience with other stereo systems, you shouldn't find anything perplexing. Simply plug in the associated components and enjoy.

The RR-AT92 Remote Control

Some functions can be done with either the front panel controls, or the supplied RR-AT92 remote control. When these operations are described, the call out number for both controls is shown. For example, you can adjust the volume with either the front panel Volume control 5 or the remote control buttons 21.

See the "IR Inputs and Output" section for more information on way to expand the IR control capabilities of your system.

Note: *Remove the batteries from the remote control if it will not be used for a long period of time. Do not leave run down batteries in the remote control. Exhausted batteries can leak corrosive chemicals which will damage the unit.*

NOTE: *The RR-AT92 can be used to operate the basic function of other certain other Rotel components, including Tuners, CD Players and DVD Players.*

To operate a Rotel Tuner —
1) Select the tuner function of the RR-AT92.
2) Press "Power" and "1" (RT-02) or "2" (RT-940AX).
3) Press the key for Tuner operation.

To operate a Rotel CD Player —
Select the CD function of the RR-AT92

To operate a Rotel DVD Player —
Select the AUX 1 function of the RR-AT92.

Remote Sensor 4

The Remote Sensor picks up the infrared signals from the remote control. Do not cover or block the sensor. It must be unobstructed or the remote control will not work properly. The operation of the Remote Sensor can also be affected if it is exposed to bright light, particularly sunlight. Certain types of lighting, such as halogen lights, that emit a fair amount of infrared light, can also interfere with proper operation. In addition remote control functions may not work reliably if the batteries in the RR-AT92 are weak.

A Few Precautions

WARNING: *To avoid potential damage to your system, turn off ALL the components in the system when connecting or disconnecting the loudspeakers or any associated components. Do not turn the system components back on until you are sure all the connections are correct and secure. Pay particular attention to the speaker wires. There must be no loose strands that could contact the other speaker wires, or the chassis of the amplifier.*

Please read this manual carefully. It provides information on how to incorporate the RC-03 into your system as well as information that will help you get optimum sound performance. Please contact your authorized Rotel dealer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the RC-03 shipping carton and all enclosed packing material for future use. Shipping or moving the RC-03 in anything other than the original packing material may result in severe damage to your amplifier.

Fill out and send in the owner's registration card packed with the RC-03. Also be sure to keep the original sales receipt. It is your best record of the date of purchase, which you will need in the event warranty service is ever required.

Placement

Like all audio components that handle low-level signals, the RC-03 can be affected by its environment. Avoid placing the RC-03 on top of other components. Also avoid routing audio signal cables near power cords. This will minimize the chance it will pick up hum or interference.

The RC-03 generates heat as part of its normal operation. The heat sinks and ventilation openings in the amplifier are designed to dissipate this heat. The ventilation slots in the top cover must be open. There should be 10 cm (4 inches) of clearance around the chassis, and reasonable airflow through the installation location, to prevent the amplifier from overheating.

Remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support it. We recommend installing the RC-03 in furniture designed to house audio components. Such furniture is designed to reduce or suppress vibration which can adversely affect sound quality. Ask your authorized Rotel dealer for advice about component furniture and proper installation of audio components.

Cables

Be sure to keep the power cords, digital signal cables and regular audio signal cables in your installation away from each other. This will minimize the chance of the regular audio signal cables picking up noise or interference from the power cords or digital cables. Using only high quality, shielded cables will also help to prevent noise or interference from degrading the sound quality of your system. If you have any questions see your authorized Rotel dealer for advice about the best cable to use with your system.

AC Power and Control

AC Power Input 17

The RC-03 does not draw high levels of current from the power outlet. However, whenever possible, it should be plugged directly into a 2-pin polarized wall outlet. Do not use an extension cord. A heavy duty multi-tap power outlet strip may be used if it (and the wall outlet) can handle the current demanded by the RC-03 and all the other components connected to it.

Your RC-03 is configured at the factory for the proper AC line voltage in the country where you purchased it (either 115 volts AC or 230 volts AC with a line frequency of either 50 Hz or 60 Hz). The AC line configuration is noted on a decal on the back panel.

NOTE: *Should you move your RC-03 amplifier to another country, it is possible to reconfigure it for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the RC-03 exposes you to dangerous voltages. Consult a qualified service person or the Rotel factory service department for information.*

If you are going to be away from home for an extended period of time such as a month-long vacation, it is a sensible precaution to unplug your amplifier (as well as other audio and video components) while you are away.

Power/Standby Switch 1 20 and Power Indicator 2

The Power Indicator light above the Standby button is lit whenever the RC-03 is connected to a live AC outlet. When the front panel Standby button or the remote control Power button is pressed the RC-03 is turned on. When the RC-03 is on the Function indicator and the Volume control are illuminated. Pressing either button again puts the RC-03 in standby mode and turns off the Volume and Function illumination.

See the "12V Trigger Outlet" section for more information on ways you may be able to turn on and off other components in your system along with the RC-03.

Input Signal Connections

[See Figure 3.]

NOTE: *To prevent loud noises that neither you nor your speakers will appreciate, make sure the system is turned off when you make any signal connections.*

Phono/Line Input 10 and Ground Connection 9

The Phono/Line input is set at the factory to operate as a phono input. If you will not be using the phono input, this input can be convert it to a standard line level input. See the "Converting the Phono/Line Input section of this manual. The following information covers using the 10 input as a phono input.

Plug the cable from the turntable into the appropriate left and right phono inputs. If the turntable has a "ground" wire connect it to the screw terminal 9 to the left of the Phono inputs. It will help prevent hum and noise.

Line Level Inputs 11

The CD, Tuner, and Aux inputs of the RC-03 are "line level" inputs. These are for connecting components such as CD players, Hi Fi or NICAM Stereo video cassette recorders, tuners, Laser Disc players or the analog output from a CD ROM drive.

The Left and Right channels are labeled and should be connected to the corresponding channels of the source component. The Left connectors are white, the Right connectors are red. Use high quality RCA cables for connecting input source components to the RC-03. Ask your authorized Rotel dealer for advice about cables.

Phono/Line Input Conversion

[See Figure 2 for conversion jumper locations.]

The Phono/Line input set configured at the factory for phono input operation. If you do not use the phono input and need another line level input, this input can be converted to a line level input.

In order to convert the input for line level usage, four "jumper" connectors inside the RC-03 must be moved from one set of pins to another. This task should be done by a qualified technician. See your authorized Rotel dealer.

Resetting Jumpers

Before opening the RC-03 cabinet to reset the jumpers, the power cord must be unplugged from the wall. DO NOT OPEN THE CABINET OF THE RC-03 BEFORE THE POWER CORD HAS BEEN UNPLUGGED FROM THE WALL. FAILURE TO DO SO WILL EXPOSE YOU TO HAZARDOUS VOLTAGES.

After the power cord has been unplugged, remove the screws that hold the cabinet cover in place and slide the cover off. Locate the four jumper pin blocks near the Phono/Line input labeled SW1, SW2, SW3 and SW4. The factory standard (phono) position of the jumpers is on pins 2 and 3 of each block. To convert the RC-03 Phono/Line input to a line type input move all four jumpers so they are on pins 1 and 2 of each jumper pin block. Replace the cover of the cabinet. **Do not plug the RC-03 power cord back into the wall outlet until the cabinet cover has been replaced.**

Recorder Connections 12

[See Figure 3.]

The Tape inputs and outputs can be connected to any record/playback device that accepts standard line level analog input and output signals. Typically that will be a conventional tape recorder.

When connecting a recorder to the RC-03 remember that the outputs of the recorder must be connected to the tape inputs of the RC-03. Similarly the tape outputs of the RC-03 must be connected to the inputs of the recorder. As with other sources be sure to connect the Left and Right channels of each device to the proper channels on the associated components. Use high quality connecting cables to prevent loss of sound quality.

NOTE: *The Tape Outputs are not affected by the Volume or Balance controls. They receive a fixed level signal.*

Output Connections 13

[See Figure 3.]

The RC-03 has RCA-type output connectors that are compatible with the inputs of most power amplifiers. Use high quality cables and be sure to connect the Left and Right channel outputs of the RC-03 to the correct channels of the amplifier.

There are two sets of outputs on the RC-03. The second set of outputs may be used in custom system configurations to drive a second power amplifier or to supply a signal to a special signal processor.

NOTE: *Changes to the settings of the Volume and Balance controls affect the signal from the Preamp Outputs.*

Phones Output 3

The Phones output allows you to connect headphones for private listening. This output accommodates standard stereo phone (1/4") plugs. If your headphones have another type of plug, such as a 1/8" mini-plug, you will need an adapter plug. Contact your authorized Rotel dealer, to get the correct adapter plug. Plugging in a set of headphones does not cut off the signal to the outputs. The settings of the Function Selector and the Tape Monitor Control determines which source is heard. To listen to or monitor the component connected to the Tape input set the Monitor Control to the Tape position. For all other inputs leave the Monitor Control in the Source position and select the source you want to listen to with the front panel Function Selector or press the corresponding source button on the remote control.

NOTE: *Because the sensitivity of headphones and the other components in the system can vary widely, always reduce the volume level before connecting or disconnecting headphones.*

Audio Controls

Volume Control 5 21

Turn the controls clockwise to increase the volume, or counterclockwise to decrease the volume. Or use the remote control volume buttons. Press the ▲ button to increase the volume, or the ▼ button to decrease the volume.

Balance Control 6

The Balance Control adjusts the left-to-right balance of the sound output. Normally the control should be left in the center position. In some situations, typically when the main listening position is not ideally centered between the speakers, it may be necessary to adjust the control to achieve proper left-to-right balance. Turning the control counter-clockwise shifts the sound balance to the left. Turning the control clockwise shifts the sound balance to the right.

Function Control 8 19

The Function control selects the input signal source. Turn the Function control to the source you want to listen to. Or press the corresponding source button on the remote control.

The signal selected by the Function control is the one you hear, as long as the Monitor control is set to the Source postion. (See the following section.) The signal selected by the Function control also goes to the Tape Outputs.

Monitor Control 7

When the Monitor Control is set to the Source position, the signal you hear, and which goes to the Outputs, is selected by the Function Control. To listen to the signal from a recorder connected to the Tape Inputs, set the Monitor Control to the Tape position. When the Monitor Control is in the Tape position, the signal from the Tape Input also goes to the Outputs.

The signal that goes to the Tape Output is always selected by the Function Control. When you are recording with a unit that has monitoring capabilities, you can listen to the sound just recorded by setting the Monitor Control to the Tape position.

Mute Control 18

Remote Only

To temporarily mute the sound of the system press the Mute Button on the RR-AT92 remote. The volume Control LED blinks when the sound is muted. Press the button again to return the sound volume to the original level.

IR Inputs and Outputs

External Remote Input 14

This 3.5 mm mini-jack (labeled EXT REM IN) receives command codes from an industry-standard infrared receivers (Xantech, etc.) located in the main listening room. This feature is useful when the unit is installed in a cabinet and the front-panel sensor is blocked. Consult your authorized Rotel dealer for information on external receivers and the proper wiring of a jack to fit the mini-jack receptacle.

NOTE: *The IR signals from the EXTERNAL REMOTE IN jack can be relayed to source components using external IR emitters or hardwired connections from the IR OUT jacks.*

IR Output 15

The IR OUT jack sends IR signals received at the EXTERNAL REM IN jack to an infrared emitter, or to Rotel CD players, cassette decks, or tuners with a compatible rear panel IR connector. This allows you to use IR control features to operate other components when the IR sensors on those components are blocked for obstructed by installation in a cabinet.

See your authorized Rotel dealer for information on IR repeater systems.

NOTE: *The EXT REM IN jack located next to the the IR OUTPUT jack is for use with an external IR sensor which duplicates the front panel IR sensor.*

12 Volt Trigger Outlet 16

Some audio components can be turned on automatically when they receive a 12V turn on "signal". The 12V Trigger Outputs of the RC-03 provide the required signal. Connect compatible components to the RC-03 with a conventional 3.5mm miniplug cable. When the RC-03 is in Standby mode, the trigger signal is interupted, so the components controlled by it are turned off.

Troubleshooting

Most difficulties in audio systems are the result of incorrect connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the RC-03 refer to the suggestions for the following conditions:

Power Indicator Is Not Lit

The Power Indicator should be lit whenever the RC-03 is plugged into the wall power outlet. If it does not light, test the power outlet with another electrical device, such as a lamp. Be sure the power outlet being used is not controlled by a switch that has been turned off.

Fuse Replacement

If another electrical device works when plugged into the power outlet, but the Power Indicator of the RC-03 does not light when plugged into the same outlet and the Power Switch is pushed in, it indicates that the internal power fuse may have blown. If you believe this has happened, contact your authorized Rotel dealer to get the fuse replaced.

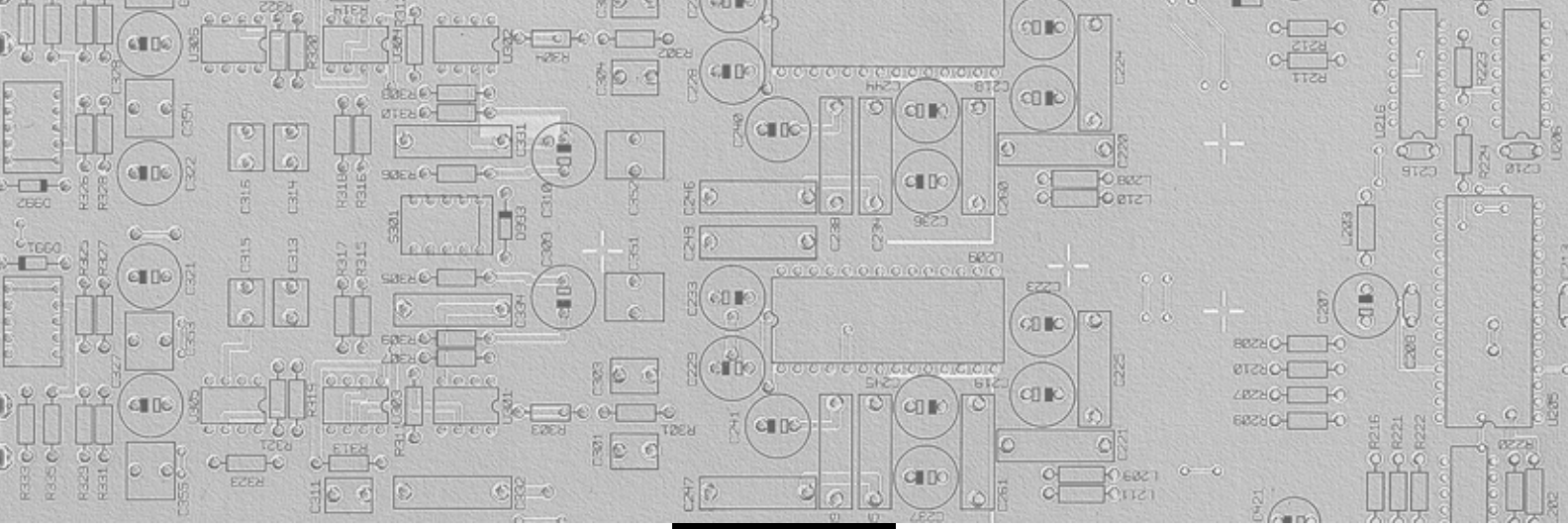
No Sound

Check the signal source to see if it is functioning properly. Make sure the cables from the signal source to the RC-03 inputs are connected properly. Be sure the Function Control and Monitor Control are properly set. Check the wiring between the RC-03 and the power amplifier. Be sure the power amplifier is on and the speakers are properly connected. If the power amplifier has level controls be sure they are set properly.

Specifications

Total Harmonic Distortion (20 Hz-20 kHz)	< 0.004%
Intermodulation Distortion (60 Hz : 7 kHz, 4:1)	< 0.004% at 1V output
Frequency Response	
Phono Input (MM)	20Hz-20kHz, ±0.5dB
Line Level Inputs	4Hz-100kHz, ±3dB
Input Sensitivity / Impedance	
Phono Input (MM)	1.2mV / 68 kOhms
Line Level Inputs	150 mV / 24 kOhms
Input Overload	
Phono Input (MM)	160mV
Line Level Inputs	5V
Output Level / Impedance	1 V/ 100 Ohms
Usable Headphone Impedance	8 - 2,000 Ohms
Signal to Noise Ratio (IHF "A" weighted)	
Phono Input (MM)	70 dB
Line Level Inputs	100 dB
Power Requirements	
USA Version	115 Volts, 60 Hz
European Version	230 Volt, 50 Hz
Power Consumption	10 Watts
Dimensions (W x H x D)	435 x 72 x 328 mm 17 1/8 x 2 7/8 x 12 15/16"
Front Panel Height	60mm
Weight (net)	4.3 kg, 9.5 lbs.

All specifications are accurate at the time of printing.
Rotel reserves the right to make improvements without notice.



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